

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An actuator for applying a force to an object, the actuator comprising:
an inflatable bladder guided in expansion by a guide having asymmetrical expansion characteristics, the bladder having an inlet for inflating said bladder with fluid from a fluid source wherein the guide constrains the bladder to expand preferentially in one direction upon inflation of the bladder.
- 2 to 3 (Canceled)
4. (Currently Amended) An actuator according to claim 3 claim 1 wherein the bladder and guide are integral with one another.
5. (Original) An actuator according to claim 4 wherein the bladder and guide comprise a tubular portion and the guide comprises reinforcing members extending circumferentially around the tubular portion.
6. (Original) An actuator according to claim 5 wherein the reinforcing members are affixed to a surface of the bladder.
7. (Currently Amended) An actuator according to claim 6 claim 5 wherein the reinforcing members are embedded within material of the bladder.
8. (Currently Amended) An actuator according to any one of claims 1 to 3 claim 1 wherein the bladder comprises

[[an]] a fluid-impermeable tubular portion extending through a tubular portion of the guide.

9. (Currently Amended) An actuator according to ~~any one of claims 1 to 3 or 8~~ claim 1 wherein the guide comprises a layer of material penetrated by apertures, the apertures arranged in an asymmetrical pattern so that the guide has a high-stretch direction and a low-stretch direction.
10. (Currently Amended) An actuator according to claim 9 wherein the apertures comprise slits oriented transversely to the high stretch direction.

11 to 16 (Canceled)

17. (Currently Amended) An actuator according to ~~any one of claims 9 to 15~~ claim 1 wherein the guide comprises a material that is substantially inelastic in [[the]] a low-stretch direction.

18. (Canceled)

19. (Original) An actuator according to claim 9 wherein the guide has a modulus of elasticity in the low-stretch direction at least twice as great as a modulus of elasticity of the bladder.

20. (Currently Amended) An actuator according to ~~any one of claims 1 to 3 or 8~~ claim 1 wherein the guide comprises a layer of elastic material having a plurality of reinforcing members attached thereto, the reinforcing members extending in a low-stretch direction, the guide having a modulus of elasticity in the low-stretch direction substantially less than a modulus of elasticity in a high-stretch direction extending transversely to the reinforcing members.

21. (Original) An actuator according to claim 20 wherein the reinforcing members comprise elongated inelastic elements attached to the material of the guide.
22. (Original) An actuator according to claim 21 wherein the elongated inelastic elements are embedded within the material of the guide.
23. (Original) An actuator according to claim 20 wherein the reinforcing members comprise elongated thickened portions of the guide.
24. (Currently Amended) An actuator according to ~~any of claims 1 to 3 or 8~~ claim 1 wherein the guide comprises a woven cloth having asymmetrical stretch characteristics.

25 to 27 (Canceled)

28. (Currently Amended) An actuator according to ~~claim 27~~ claim 1 wherein

the tubular passages are arranged to extend generally parallel to one another;
each of the tubular passages extends from a first manifold common to the tubular passages; and
each of the tubular passages extends between the first manifold and a second manifold common to the tubular passages.
29. (Currently Amended) An actuator according to ~~any one of claims 25 to 28~~ claim 28 wherein the tubular passages are closely spaced and, when inflated, provide a palisade-like array of parallel tubular passages.

30 to 33 (Canceled)

34. (Currently Amended) An actuator according to ~~any of claims 1 to 33~~ claim 1 wherein the bladder comprises

first and second sheets of elastic, fluid-impermeable material bonded to one another to define at least one fluid-carrying passage in fluid communication with the inlet.

35. (Currently Amended) An actuator according to claim 34 wherein the first and second sheets are joined to one another by internal seams which define islands that are sealed from the fluid passages defined in the bladder and the sheets are penetrated by apertures in the islands.

36. (Canceled)

37. (Original) An actuator according to claim 38 wherein the guide extends through the apertures in the islands.

38 to 39 (Canceled)

40. (Currently Amended) Apparatus for unloading a body part, the apparatus comprising first and second body-encircling members for attachment to a wearer's body on either side of the body part and at least one actuator according to ~~any one of claims 1 through 39~~ claim 1 connected between the first and second body-encircling members wherein the guide is oriented to control the expansion of the bladder to force the first and second body-encircling members apart upon inflation of the bladder.

41 to 58 (Canceled)

59. (Currently Amended) An apparatus according to claim 57 or 58 40 wherein the actuator subtends an angle not exceeding 270 degrees measured from a centre point on the coronal centreline of the wearer's torso.

60 to 70 (Canceled)